

TONDL, A.

Dangerous vibrations of rotors, p. 657.

STROJIRENSTVI. (Ministerstvo tezkeho strojirenstvi, Ministerstvo presneho strojirenstvi a Ministerstvo automobiloveho prumyslu a zemedelskych stroju) Praha, Czechoslovakia, Vol. 9, no. 9, Sept. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 9, no. 1, Jan, 1960

Uncl.

TONDL, Ales, dr.,inz.,C.Sc.

International symposium on non-linear oscillations in Kiev.  
Stroj cas 13 no.2:203-205 '62.

TONDL, Ales, dr. inz., ScC.

Analysis of the motion of a single-disk rotor on vertical  
shaft mounted in journal bearings. Stroj cas 14 no.4:293-304  
'63.

1. Statni vyzkumny ustav tepelne techniky, Praha.

TONDL, Alesh (Bratislava).

Stability of rotor motion considering the rigidity effect on shaft and coupling torsion and the yield of bearing supports. Izv. AN SSR. Otd. tekhn. nauk no. 4:93-105 Ap '57. (MLBA 10:6)

1. Laboratoriya teoreticheskoy i prikladnoy mekhaniki Slovatskoy Akademii nauk.

(Rotors)

TONDL, A.

The vibration and stability of elastically supported rotors. p. 23.

Vol. 65, no. 5, 1955  
ROZPRÁVY RADA TECHNICKO-VEDECKÁ  
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5 No. 4 April 1956

TONDL, A. (Praga).

~~Stability of elastic shafts~~ supporting a single disk and subjected  
to the action of forces of internal and external friction and the  
weight of disk. Izv. AN SSSR Otd. tekhn. nauk no.1:21-25 Ja '58.  
(Shafting) (MIRA 11:3)

TONDL, A.

Periodic movement of rotors with nonlinear characteristics of supports. p. 35.  
(STUDII SI CERCETARI DE MECANICA APLICATA. Vol. 8, no. 1, Jan/Mar. 1957.  
Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957.  
Uncl.

Tondl, A

Tondl, A.; Simek, J.

Tondl, A.; Simek, J. Vibrations on an unbalanced rotor with regard to the effect of unequal solidity fo bearing stands in two directions and the torsion solidity of the coupling. p. 273.

Vol. 7, no. 5, 1956

STROJNOELEKTROTECHNICKY CASOPIS  
TECHNOLOGY  
Czechoslovakia

So: East European Accessions, Vol. 6, May 1957  
No. 5



Tondl, A.

AUTHOR: Tondl, A. (Prague).

24-1-3/26

TITLE: On the stability of a flexible shaft with one disc taking into consideration the effect of forces of internal and external damping and the effect of the weight of the disc. (Ob ustoychivosti gibkogo vala s odnim diskom pri deystvii sil vnutrennego i vneshnego treniy i vesa diska).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, No.1, pp. 21-25 (USSR).

ABSTRACT: The stability of a flexible shaft with a disc at the centre of the shaft, taking into consideration the effects of damping by internal and external friction, has been investigated by numerous authors. For instance, F. M. Dimentberg, (Refs. 1-3), has solved the non-linear problem without taking into consideration the weight of the disc. M. I. Chayevskiy (Refs.4 and 5) published experimental results relating to the influence of friction. In this paper the stability is investigated of a rotor, taking into consideration internal damping (caused by the material of the shaft itself) and external damping for a horizontal shaft, i.e. taking into consideration the effect of the weight of the disc. The movement of the

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On the stability of a flexible shaft with one disc taking into consideration the effect of forces of internal and external damping and the effect of the weight of the disc.

disc is expressed first in terms of rotating coordinates of the system  $(\xi, \mu)$   $(\xi + i\mu) = \xi$  (see Fig.1). Then, the Cartesian coordinates  $\xi, \mu$  are substituted by polar coordinates  $\rho, \varphi$  (see Fig.2). The internal damping force  $P_t$  is expressed by a non-linear function of the speed and the deflection, Eq.(8); the vector of the force  $P_t$  is not considered as being generally coincident with the direction of the speed  $\xi$ . The result of the solution is the establishment of necessary and adequate conditions of stability of the movement expressed by the inequalities (19) and (20), whereby  $\kappa$  is the coefficient of external damping and  $\delta_1$  and  $\delta_2$  are respectively the coefficient of the radial and tangential components of the internal damping which are dependent on the sag of the shaft  $R$ .  $\Omega$  is the frequency of the natural oscillations of the rotor and  $\omega$  is the angular speed of rotation of the shaft.  $\delta_2'$  is the derivation according to  $R$  of the coefficient  $\delta_2$ . The inequality (19) is always fulfilled. If the inequality (23) is fulfilled, the movement of the rotor will be stable in

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On the stability of a flexible shaft with one disc taking into consideration the effect of forces of internal and external damping and the effect of the weight of the disc.

the entire range of  $\omega$ . However, if the inequality (23) is not fulfilled, an upper limit of stable  $\omega$  values will exist. The tangential component of the internal damping reduces this limit, whilst the radial component of the internal damping and the external component increase this limit.

$$\kappa \Omega^2 \left( \kappa + \frac{\delta_1}{R\omega} \right) - \frac{1}{R} \delta_2 \delta_2' > 0 \quad (19)$$

$$\omega < \frac{\kappa \Omega^2 \delta_1}{\delta_1 \delta_2' + \kappa^2 R \Omega^2} \quad (20)$$

$$D^2 > \frac{h_2}{cR} \frac{h_2'}{c} \quad (23)$$

There are 3 figures, 6 figures - 5 Russian, 1 English.

SUBMITTED: July 15, 1957.

AVAILABLE: Library of Congress.

Card 3/3

24,4000 1538, 1539, 1395

22244

R/008/60/000/005/002/014  
A231/A126

AUTHOR: Tondl, Aleš

TITLE: The influence exerted by the elastic support of foundations on the self-excited oscillations of rotors, due to the action of the lubricating oilfilm in journal bearings

PERIODICAL: Studii și Cercetări de Mecanică Aplicată, no. 5, 1960, 1103 - 1116

TEXT: Self-excited oscillations of rotors due to the lubricating oil-film in journal bearings have been examined by various authors and by the National Institute of Thermotechnical Investigations in Prague. Self-excited oscillations are produced in case of a revolution rate twice as high as the critical speed. Brief reference is made to the most important results and to the rotors of uniform mass distribution used by O. Pinkus (Ref. 5: Experimental Investigation of Resonant Whip, Trans. ASME, July, 1956). The frequency of self-excited oscillations is always equal to the lowest inherent frequency of the rotor. The author now examines which of the frequencies of the whole system (machine and its foundation will) match the frequen-

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The influence exerted by the elastic support...

222/44  
R/008/60/000/005/002/014  
A231/A126

cy of the self-excited oscillations. He used an installation previously described. In the present article he just mentions the modifications applied to the performance of the latest experiments. The chassis, formerly fixed on a concrete base, was now fixed partially on porous-rubber blocks and partially on steel springs. Thus, a better damping has been achieved. The motor, formerly fixed on a free elastic support, was now rigidly fixed on the foundation. All data were taken with the same rotor: shaft diameter 40 mm, length of the shaft between the centers of the journal bearings 1,420 mm, weight of the disc 35.8 kg. The rotor had a critical revolution rate of  $1,020 \text{ min}^{-1}$ . In the ideal case, four revolutions are obtained, two of which are subtracted from the own frequencies of the foundation and the other two from the rotor's frequency. In the present case, the revolutions were practically equal with  $n_{03} = 1,310 \text{ min}^{-1}$ . The revolutions deduced from the elastic support were  $n_{01} = 325 \text{ min}^{-1}$  and  $n_{02} = 570 \text{ min}^{-1}$  ( $n_{01}$ ,  $n_{02}$ ,  $n_{03}$  = critical revolutions,  $\text{min}^{-1}$ ). The rotor was supported by two types of cylindrical bearings and bearings with elastic elements. All bearings had a length of  $l = 40 \text{ mm}$ . The diameter of the shaft was  $d = 40 \text{ mm}$ . The cylindrical bearings had a tolerance of  $2\delta = 0.4 \text{ mm}$ . The bearings with

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elastic elements fixed on a rigid foundation presented either great resistance to the self-excited oscillation of the bearing (in case of a  $2\delta = 0.20$  mm bearing,  $\bar{\Phi} = 43.8$  mm), or a relatively low resistance (in case of a  $2\delta = 0.30$  mm bearing,  $\bar{\Phi} = 43.6$  mm, and  $2\delta = 0.20$  mm,  $\bar{\Phi} = 45$  mm). The author recorded the relative motion of the disc against the chassis and the motion of the chassis in vertical and horizontal directions. Deviations of 0.2 mm of the disc and of 0.1 mm of the chassis could be recorded. A TESLA capacity indicator has been used as measuring instrument. The frequency of the self-excited oscillations is equal to the frequency of the whole mechanical system, subtracted from the lowest frequency of the rotor. The most important results of each type of rotor are compiled in Table 1. The relative motion of the disc against the chassis has no greater amplitude, except at a critical number of revolutions  $n_{0s}$  [Abstracter's Note: should possibly read  $n_s$ ] and at the production of self-excited oscillations. The horizontal component of the motion accomplished by the chassis has great amplitudes for  $n_{01}$ ,  $n_{03}$ ,  $n_s$ . For all these components of the motion of the rotor chassis, the oscillations attain the maximum amplitude at the production of self-excited oscillations. If the rotor is assembled on bearings with three elastic elements ( $2\delta = 0.20$  mm,  $\bar{\Phi} = 43.8$  mm) no self-excited oscillations

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are produced. The recordings reproduce only the damage traces. The following results have been obtained: 1) The frequency of the self-excited oscillation is equal to the frequency of the whole system, subtracted from the lowest frequency of the rotor; 2) Intense oscillations are produced at the rotor and foundation; 3) In case of a shaft revolution contrary to the free extremities of the elastic elements, a reduction of the limit ratio of the production of self-excited oscillations against a rigid support of the rotor could be established at cylindrical bearings and bearings with four elastic elements, but generally, no reduction of the absolute value of the limit revolution of the production of self-excited oscillations could be established; 4) In case of a shaft revolution contrary to the free extremities of the elastic elements of a bearing with three elements, no self-excited oscillation was produced; 5) In a counter-clockwise revolution of the shaft, no self-excited oscillations were recorded at bearings with elastic elements. The assembly of a machine on a foundation with low frequency does not represent a serious danger for the self-excited oscillations, as long as the operation of the machine is smooth on a rigid foundation. There are 11 figures, 1 table, and 8 references: 2 Soviet-bloc and 6 non-Soviet-

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R/008/55/000/005/002/014  
A231/A126

The influence exerted by the elastic support...

bloc. The most recent reference to an English-language publication reads as follows: A Tondl, Experimental Investigation of Self-Excited Vibration of Rotors Due to Action of the Lubricating Oil Film, in Journal Bearings Monography? SVUTT, SNTL, Praha, 1960.

ASSOCIATION: Vyzkumny ustav tepelne technicky C..A..V. (Thermo-technical Research Institute of the Czechoslovak Academy of Science) in Prague

SUBMITTED: March 21, 1960

Table 1: I - bearing type; II - data regarding the bearings; III - clockwise revolution of the rotor; IV - counter-clockwise revolution of the rotor; V - self-excited oscillations with great amplitude; VI - no self-excited oscillations, only small damages were produced, stable percussions; VII - in case the revolution increases, the amplitude of the self-excited oscillations increases after exceeding the limits; VIII - self-excited oscillations of great amplitude; IX - there are no self-excited oscillations)

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The influence exerted by the elastic support...

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A231/A126

Table 1:  
(continued)

I Tipul lagărilor	II Date privitoare la lagăre	III Sensul rotirii rotorului în direcția acelor de ceasornic			Sensul rotirii rotorului contrar ac- lor de ceasornic
		$q_1$	$q_2$		
	28 - 40	2,5 - 3,0	1,4 - 1,7	oscilații autoexcitate cu am- plitudine mare	IV  X
	28 - 20 Φ - 43,8	-	-	VI nu s-au produs oscilații auto- excitate. Nu se produc dect mici avarii. percuție stabilă	
	28 - 20 Φ - 45	2,7 - 3,25	1,7 - 2,0	VII amplitudinea oscilațiilor au- toexcitate, după depășirea limitelor de producere crește ușor, atunci cînd numărul de turații crește. Limita de for- mare depinde întrucîtva de temperatura uleiului	
	28 - 30 Φ - 43,6	2,7 - 3,0	1,3 - 2,3	VIII oscilații autoexcitate cu am- plitudine mare	IX nu există os- cilații auto- excitate

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20860

Z/041/61/000/001/001/001  
E073/E335

18.8200 4016, 1418, 262 2807

AUTHOR: Tondl, Aleš, Doctor Engineer, Candidate of Sciences  
TITLE: Stability of Motion of a Rotor with  $n$  Discs on a  
Shaft with Nonuniform Rigidity

PERIODICAL: Strojnícky časopis, 1961, No. 1, pp. 5 - 7

TEXT: The stability is calculated of a rotor consisting of  $n$  discs fitted on a shaft with different bending rigidities in the two directions, i.e. a shaft which is weakened along its entire length by grooves, or a shaft with a non-circular cross-section. The gyroscopic effect is disregarded in the calculations. On the basis of the kinetic-energy and the potential-energy equations, a system of differential equations is derived, using the second-type Lagrange equations. It is concluded from these that if  $I_1$  is a minimum and  $I_2$  the maximum moment of inertia of the shaft cross-section, which are assumed constant throughout the length of the shaft, there will be  $n$  unstable regions which are defined by the inequality

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$$\Omega_k^2(1 - \mu) < \omega^2 < \Omega_k^2(1 + \mu), \quad (k = 1, 2, 3, \dots, n) \quad (7)$$

$\Omega_k$  ( $k = 1, 2, 3, \dots, n$ ) are the resonant frequencies of the system provided that the average values of the moment of inertia  $I = (I_1 + I_2)/2$  and  $\mu = (I_2 - I_1)/(I_1 + I_2)$  are applied. These are the only unstable regions. Running through an unstable region will be the more dangerous the higher the value  $k$  of this region. If, however, the condition that the weakening of the shaft is the same throughout the entire length of the rotor is not fulfilled or if the rotor is supported by several bearings and the shaft is grooved in one field and not grooved in the other, it will no longer be possible to determine easily the regions of instability and,

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Stability of Motion ....

Z/041/61/000/001/001/001  
E073/E335

in addition to n basic regions of instability, other  
instability regions will occur.  
There is 1 Czech reference.

ASSOCIATION: Statni výzkumný ústav tepelné techniky, Praha  
(State Thermotechnical Research Institute,  
Prague)

SUBMITTED: February 4, 1960

X

Card 3/3

TONDL, A.

Influence of oil film on the stability of the motion of a journal in a bearing  
and the development of self-excited vibrations of a rotor. p. 1-59.  
ROZPRAVY, RADA TECHNICKO-VEDECKA, Prague, Vol. 66, no. 2, 1956.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, no. 6 June 1956,  
Uncl.

THEORY OF MACHINES

AUTHOR: Tondl A. (Bratislava). 24-4-13/34

TITLE: On the stability of movement of the rotor, taking into consideration the influence of the torsion rigidity of the shaft and of the coupling and the influence of the flexibility of the bearing supports. (Ob ustoychivosti dvizheniya rotora s uchetom vliyaniya zhestkosti na krucheniye vala i mufty i podatlivosti stoyek podshipnikov).

PERIODICAL: "Izv. Ak. Nauk, Otd. Tekh. Nauk" (Bulletin of the Ac. Sc., Technical Sciences Section), 1957, No.4, pp.93-105 (USSR).

ABSTRACT: Dimentberg, F.M. (Izv. Ak. Nauk, Otd. Tekh. Nauk, 1954, No.10) considered the influence of the rigidity and the internal friction, disregarding the influence of the rotor weight; in studying the stability he arrived at differential equations of the disturbed motion with constant coefficients. In earlier work of the author (4) certain cases of elastically supported rotors are considered. In this paper the influence of the flexibility of bearing supports and of the torsion rigidity of the shaft and the coupling on the stability of periodic oscillations caused by unbalances in the rotor are studied. The here given solution supplements the earlier work of the author in which only a periodic solution was given. The aim of the work is not only to obtain a solution for the given case

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On the stability of movement of the rotor, taking into consideration the influence of the torsion rigidity of the shaft and of the coupling and the influence of the flexibility of the bearing supports (Cont.). 24-4-13/34

but also to emphasize that the method of Shimanov, S.N. (5) can be used in a number of other cases, particularly for investigating the stability of solutions of non-linear systems in cases in which all the non-linear functions are analytical in a certain zone and are multiplied by a small parameter. As a result of the solution, approximate values are determined of the rotor r.p.m. for which a disturbance in the stability of the periodic solution may occur. If  $\omega$  is the angular speed of the rotor,  $\Omega_1$  the frequency of the natural bending oscillations of the rotor in the horizontal direction,  $\Omega_2$  frequency of the natural bending oscillations of the rotor in the vertical direction and  $\Omega_3$  the frequency of the natural torsion oscillations of the rotor, disturbances may occur for:

$$\omega = |\Omega_1 \pm \Omega_3|, \quad \omega = |\Omega_2 \pm \Omega_3|$$

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This possible disturbance of the stability is valid only in the case of low damping and bad balancing of the rotor. The result emphasises the importance of thorough balancing of rotary machinery. It was found that application of a

On the stability of movement of the rotor, taking into consideration the influence of the torsion rigidity of the shaft and of the coupling and the influence of the flexibility of the bearing supports (Cont.). 24-4-13/34

coupling with a low torsion stability increases the possibility of loss of stability. The flexibility of the bearing supports have practically no effect on the stability of the periodic oscillations.

There are 2 figures, 9 references, 5 of which are Russian.

ASSOCIATION: Laboratory of Theoretical and Applied Mechanics,  
Slovak Ac.Sc. (Laboratoriya teoreticheskoy i prikladnoy  
mekhaniki Slovatskoy Akademii nauk).

SUBMITTED: December 4, 1956.

AVAILABLE:

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**"APPROVED FOR RELEASE: 04/03/2001**

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**CIA-RDP86-00513R001756220020-6"**

TONDL, L.; NEKOLA, Y.; VOBORNIK, B.

Role of science in modern society. Vest.AN SSSR 35 no.8:56-60 Ag  
'65. (MIRA 18:8)

1. Chekhoslovatskaya Akademiya nauk.

PEREZ, Albert, dr. DrSc.; TONDL, Ladislav, doc. dr CSc.

The subject of cybernetics. Kybernetika 1 no.1:4-11 '65.

1. Institute of Information Theory and Automation of the  
Czechoslovak Academy of Sciences, Prague 2, Vysehradská  
49. Submitted May 25, 1964.

TONDL, Ladislav (Praha)

Notes on the outlook of cybernetics. Pokroky mat fyz  
astr 8 no.1:2-14 '69.



TONDÓS, Julian; GORSKA, Anna; RADECKI, Aleksander

Pulmonary tuberculosis and fitness for the teaching profession  
(attempted establishment of criteria). Gruzlica 30 no.9:867-  
874 '62.

(TUBERCULOSIS, PULMONARY) (TEACHING)  
(OCCUPATIONS AND PROFESSIONS)

HOLECEK, K.; TONDR, J.

Semioperational installation for continuous chemical nickel plating.  
Strojirenstvi 13 no.10:789-793 O '63.

1. Vyzkumny ustav pro sdelovaci techniku, Praha.

Tondr, J.

Safety of electric equipment in agricultural buildings. p. 106.

Vol. 10, no. 4, Apr. 1955.

ELEKTROTECHNIK

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 9,  
Sept. 1955, Uncl.

ACC NR: AT7001785

SOURCE CODE: UR/3119/66/000/004/0057/0069

AUTHOR: Shvarts, K. K.; Tfiliks, Yu. Ye.; Tone, D. K.; Ulmane, I. M.

ORG: Institute of the Physics AN LatSSR (Institut fiziki AN LatSSR)

TITLE: Radiation-chemical processes in ionic crystals. 1. Radiolysis of alkali-halide crystals under the influence of gamma rays

SOURCE: AN LatSSR. Institut fiziki. Radiatsionnaya fizika, no. 4, 1966. Ionnyye kristally (Ionic crystals), 57-69

TOPIC TAGS: ionic crystal, alkali halide, gamma radiation, radiolysis, radiation chemistry, color center, physical diffusion

ABSTRACT: This is the first of a cycle of investigations of the radiation-chemical processes occurring in ionic crystals, aimed at determining the relation between radiolysis and radiation defects. The investigations were made on KCl, KBr, KI, and CaCl crystals grown by the Kiropoulos method from the raw material. The irradiation was in the RK-L radiation loop, which is described elsewhere (in: Radiatsionnaya fizika [Radiation Physics] v. 2, 35, Riga, 1964) at doses from 200 to 1400 rad/sec. The test procedures are briefly described. The results show that the stable products are the free halogen and electronic and colloidal centers. The radiation-chemical yields of the radiolysis products are of the order of  $10^{-2}$  mole per absorbed 100 ev of

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ACC NR: AT7001785

energy. The radiolysis process depends to a great degree on the presence of impurity defects. Doubling of the impurity content increases the radiation-chemical yield of the radiolysis products by an average of 20%. The radiolysis products from the irradiated crystals change little with time. All that occurs is the diffusion of the gaseous products from the crystal to the gas phase. Optical and thermal discoloring causes an increase in the yield of the metallic product. The amount of transformed halogen does not change, but the diffusion processes are accelerated. Further research is necessary, especially on the temperature dependence of the yield of the metal and of the halogen, in order to determine the nature of the color centers produced by the irradiation. Orig. art. has: 5 figures, 3 formulas, and 3 tables.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 013/ OTH REF: 018  
07/

Card 2/2

ACC NR: AP6033517

SOURCE CODE: UR/0413/66/000/018/0148/0148

INVENTOR: Grzhimal'skiy, L. L.; Stukalov, K. I.; Surikov, L. S.; Tone, E. R.;  
Rastorguyev, V. S.

ORG: none

TITLE: Brazing alloy for stainless steel. Class 49, No. 186265

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 148

TOPIC TAGS: stainless steel, brazing alloy, nickel containing alloy, silicon con-  
taining alloy, copper alloy  
BASE

ABSTRACT: This Author Certificate introduces a copper-base brazing alloy containing  
nickel, silicon, and copper. To narrow the range of the alloy melting temperatures,  
the alloy contains 14-16% nickel and 1.8-2.0% silicon.

SUB CODE: 11, 13/ SUBM DATE: 29Jan65/ ATD PRESS: 5100

Card 1/1

UDC: 621.791.36

L 07868-67 EWP(e)/EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k) IJP(g) JD/IR/IR  
ACC NR: AP6033516 SOURCE CODE: UR/0413/66/000/018/0148/0148

INVENTOR: Grzhimal'skiy, L. L.; Rastorguyev, V. S.; Surikov, L. S.; Tone, E. R. <sup>43</sup><sub>B</sub>

ORG: none <sup>6</sup>

TITLE: Alloy for vacuum-tight <sup>18</sup>brazing of stainless steel. Class 49, No. 186264 <sup>8</sup>

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 148

TOPIC TAGS: brazing alloy, tin containing alloy, boron containing alloy, nickel containing alloy

ABSTRACT: This Author Certificate introduces a copper-base brazing alloy for vacuum-tight brazing of stainless steel. To improve the quality of brazed joints, <sup>✓</sup>5% <sup>✓</sup>tin, <sup>✓</sup>0.1% <sup>✓</sup>boron, and <sup>✓</sup>0.45% <sup>✓</sup>nickel are added to the alloy.

SUB CODE: 11/ SUBM DATE: 03Feb65/ ATD PRESS: 5101

Card 1/1 bc

UDC: 621.791.36

L 22644-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k) JD/HM

ACC NR: AP6009556

SOURCE CODE: UR/0413/66/000/005/0114/0114

INVENTOR: Grzhimal'skiy, L. L.; Rastorguyev, V. S.; Surikov, L. S.;  
Tone, E. R. 37  
B

ORG: none

TITLE: Brazing alloy for stainless steel, copper, and their combinations. Class 49, No. 179598

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 114

TOPIC TAGS: metal brazing, brazing alloy, copper alloy, beryllium containing alloy, tin containing alloy, silicon containing alloy, boron containing alloy

ABSTRACT: This Author Certificate introduces a brazing alloy for stainless steel, copper, and their combinations. To increase the vacuum tightness of the joint and ensure low pressure of saturated vapors at temperatures up to 800C, the alloy composition is set as follows: 0.6% beryllium, 5% tin, 1.5% silicon, 0.1% boron, and the remainder copper. [AZ]

SUB CODE: 11/ SUBM DATE: 15Jan65/ ATD PRESS: 4228

Joining of dissimilar metals

Card 1/1 UDC: 621.791.36:669.35



TONEV, D.P.

Our contribution to further development in animal husbandry.  
Veterinariia 38 no.10:27-30 O '61. (MIRA 16:2)

1. Glavnyy veterinarnyy vrach Kotovskogo rayona Moldavskoy SSR.  
(Kotovskoye District (Moldavia)--Veterinary medicine)

SHINDAROV, L.; TODOROV, Sv.; TONEV, E.; ARNAUDOVA, V.; MITOV, G.;  
NINOV, N.; MANEV, D.

Virological studies on adenovirus infections. Suvr. med. 12  
no.12:3-8 '61.

1. Iz Katedrata po mikrobiologija i virusologija pri ISUL  
[Institut za spetsializatsiia i usuvurshenstvuvane na lekarite]  
(Rukovod. na katedrata prof. D. Khadzhidimova). Nauchno-  
izsledovatel'skii institut po pediatriia (Direktor dots.  
St. Kolarov). Katedrata po mikrobiologija pri VMI [Vissh medi-  
tsinski institut] v Sofia (Rukovod. na katedrata prof.  
Sv. Burdarov) i Nauchno-izsledovatel'skii institut po epi-  
demiologija i mikrobiologija (Direktor Vl. Kalaidzhiev).  
(ADENOVIRUS INFECTIONS)

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Short notes on the geologic structure of the Chiprovtsi and Gorni  
Lom metalliferous region. Godishnik Min geol inst 8:405-412 '61-'62  
[publ. '63]

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2. "New Data on the Stratigraphy of sedimentary Deposits of Northern Island, Redoubt-Frost Plateau, dependent, C. OPIKAI, Ca. 1900 and C. PAV: pp 15-28.
3. "The Problem of the lower and upper limits of the Pleistocene age in the eastern CIOPIKAI, N. O. PIVOT: pp 33-36.
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5. "Contributions to the study of the Soong Volcanic and Volcanic Peaks of the Iuga de Sui-Oupia Region (South West of CIOPIKAI) C. PIVOT: pp 55-63.
6. "Preliminary Data Concerning the Geology of the Pileone Between the Tachinai and Pileone Valleys, E. PIVOT: pp 65-70.
7. "Geological Notes of the Sui-Oupia Hill, Aurille BIVOLK: pp 81-89.
8. "Contributions to the study of the Diatomites in the Oupia de Sui-Oupia, S. KROST: pp 91-100.
9. "Concerning the system of the Geopline Sciences, Aurille BIVOLK: pp 101-109.
10. "Geopline Observations in the lower Basin of the Basin, N. PIVOT: pp 111-126.
11. "The Plateaus and Erosion Levels of the Curving Carpathians and Sub-Carpathians (the Jordan between Black Oupia in the West and CIOPIKAI in the East), Tr. PIVOT: pp 127-133.
12. "Plateau Geology, Geomorphological Considerations, Valeria KICATVICH-KICIC: pp 135-153.
13. "Contributions to the Geomorphological study of the Tolovai Caves, Silvia KROST, Silvia KROST and

TONEA, Tr., dr.; VASILIU, Cecilia, dr.

On some complications of corticotherapy in nephropathy. Med. intern.  
14 no.9:1141-1146 S '62.

1. Spitalul M.T.Tc nr. 1, Bucuresti.  
(KIDNEY DISEASES) (ADRENAL CORTEX HORMONES)  
(HYPERTENSION) (HEMATURIA) (EDEMA) (PROTEINURIA)

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Changes in arterial elasticity in exanthematous typhus; method of quantitative interpretation of central pulse wave rate. Med. int., Bucur. 8 no.3:415-424 July 56.

(TYPHUS, physiol.  
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EXCERPTA MEDICA Sec. 6 Vol. 11/9 Sept. 57

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5216. TONEA T., GUȚĂ A. and CUVIN M. \*Modificările rezistenței periferice în tifosul exantematic. Modifications of peripheral resistance in exanthematic typhus REV. FIZIOL. NORM. PATOL. 1956, 3/3 (382-393) Tables 2

Peripheral resistance is below normal during the first week, but arterial pressure is normal because the minute volume increases and remains increased as long as the fever lasts. During the 2nd week, with the maximum on the 11th day, peripheral resistance is increased as the consequence of arteriolar constriction, provoked by stimulating substances produced by the ischaemia which itself is the result of febrile peripheral circulatory failure and of the decrease of arterial pressure. After the 11th day, peripheral resistance decreases again, parallel with defervescence.

Graur - Bucharest (XVIII, 6)

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Importance of Leninist ideas for the development of geographical sciences. Probleme geog 8:9-17 '61.



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Population of the earth. Natura Geografie 13 no.4:16-24 Jl-Ag '61.

TONEA, Yu., Candidate Geogr Sci (diss) -- "The Timisoara area of the Rumanian People's Republic (Economic-geographic characteristics)". Leningrad, 1959.  
18 pp (Leningrad Order of Lenin State U im A. A. Zhdanov), 150 copies (KL, No 26, 1959, 123)

The biochemistry of virus diseases of potatoes. H. F. Tonkha. *Bull. Applied Botany, Genetics Plant Breeding* (U.S.S.R.) Ser. III, No. 14, 53-67 (in English 67) (1953). The peroxidase activity was found to be higher among the diseased tubers, but the differences are eliminated as the rest period is over. The tyrosinase activity is considerably higher in diseased than in healthy tubers. The hydrazase which is den. by methylene blue is nonactive in diseased tubers. The catalase activity in diseased tubers is similar to that of dehydrazase. Diseased tubers contain a higher N content. J. S. Joffe

TOMA, A.; LEIZEROVICI, L.; PETREANU, C.; TONESCU, C.; CUCU, P.

Separation of tuberculous allergy into tuberculin allergy and allergy to B.C.G. bodies; priority of Rumanian research. Bul. stiint., sect. med. 9 no.1:163-170 1957.

(TUBERCULIN REACTION

difference in tuberculin allergy & allergy to B.C.G. bodies,  
discovery by Rumanians)

IGIEV, A.; GELGOREV, N.

"Toward more expedient utilization of our cements!" (p. 18)

ARKHITECTURA I STROITELSTVO

(Ministerstvo na stroezhite i putishtata, Ministerstvo na komunalnoto stopanstvo i blagoustroistvoto, i Nauchno tekhnicheskiia sviaz) Sofia Vol 3 No 10 1953

SO: East European Accessions List Vol 2 No 7 Aug 1954

Tonev, A.

Concerning the quality of the concrete. p. 6.

STROITELSTVO, Sofia, Bulgaria, Vol. 6, no. 3, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 6, No. 10, <sup>Oct.</sup> 1959  
Uncl.

KRUSTINOV, G., prof.; KAZANDZHIEV, R.; KOLIV, N.; BELEV, V.; TONEV, B.

Our experience with the use of a film-forming substance in  
the treatment of burns. Khirurgiia 17 no.2:150-152 '64.

1. Iz Vlashiia voennomeditsinski institut, Sofia.

TONEV, D. P. (Chief Veterinary Surgeon, Kotovskii Raion, Moldavin SSR)

"Our contribution to further development of animal husbandry"

Veterinariya, Vol. 38, no. 10, October 1961, pp. 27



L 4374-66

ACC NR: AP5028433

SOURCE CODE: BU/0011/65/018/001/0085/0038

AUTHOR: Tonev, E.; Shindarov, L.; Konstantinova, B. ; Vassileva, V.

ORG: Department of Microbiology and Virology, Department of Pathological Anatomy,  
Post-Graduate Medical Institute, Sofia

TITLE: Sensitivity of newly born albino mice to the sheep abortion virus upon  
intraperitoneal infection

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 1, 1965, 85-88

TOPIC TAGS: mouse, virus, virology, pathology, histology

ABSTRACT: J. T. Stamp et al. (Vet. Res., 1950, 251-254) were the first to  
isolate the sheep abortion virus. F. R. Giroud et al. (Acad. Vet. Fr., 25,  
1956, No 8, 353-401) found elementary corpuscles in mice infected peritoneally  
and killed on the 15-th day, while H. Parker (Vet. Res. 21, 1960, No 81, 243-  
250) and D. Saratianu et al. (Stud. cerc. inframicrobiol, XII, 1961, 1, 95-103)  
infected mice intracerebrally and succeeded in establishing elementary  
corpuscles. Nevertheless, the problem of finding a convenient laboratory  
model for experimental infection remained of considerable interest because of  
the pathogenic significance of the virus and the subsequent damage caused by  
its infection. Consequently, the authors attempted sensitivity tests to the  
sheep abortion virus with newborn albino mice one and three days old.

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L 4374-66

ACC NR: AP5028433

They used the local Tsalepitse strain and found that newborn mice are sensitive to intraperitoneal infection; infected animals died five days after the infection. The elementary corpuscles of the virus are to be found in the liver of the infected animals. The pathohistological changes occurring in the newborn mice infected with the virus consist of a general displacement of the elements of the reticuloendothelial system resulting in great swelling and proliferation of the endothelia of the vessels of the separate organs, the reticuloendothelial cells of the liver and spleen in particular. Peculiar giant cells are found in the liver and the spleen. In addition to the reticuloendothelial changes, there are lympho-leucocytic infiltrates observed in the organs which are of a diffuse character in some places, although in most instances they show a focal perivascular position. There is a sharply pronounced stasis in all organs and in some places plasmorrhagia and extravasates. The pathohistological changes in the cerebrum are represented by microencephalomalatic sections in some places and by lymphocytic infiltrates in others. The work was presented by A. Toshkov, Corresponding Member, of BAN, 16 Sep 64. Orig.art. has: 5 figures, 1 table.

[JPRS]

SUB CODE: LS / SUBM DATE 16Sep64 / ORIG REF: 009 / OTH REF: 006

Card 2/2

TONEV, E.; SHINDAROV, L.; KONSTANTINOVA, B.; VASSILEVA, V.

Sensitivity of newly born albino mice to the virus of abortion in sheep upon intraperitoneal infection. Dokl. Bolg. akad. nauk 18 no.1:85-88 '65

1. Submitted September 16, 1964.

DRAGOLEV, T.; TONEV, G.; IRVANOV, V.

Mechanical breaking down of coal in the fronts of open-pit mines, supported with metal props. p. 27. Minno Delo Vol. 13, No. 3, May/June 1958, Sofia, Bulgaria.

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 10, Oct. 58

TOHEV, I.

A ratiometer of the electrodynamic measuring system. Godishnik khim  
tekh 7 no.1/2:315-328 '60 [publ. '61].

S/196/63/000/003/001/012  
A052/A126

AUTHORS: Marinov, Yu., Tonev, I.

TITLE: On some m-derived RC-filters

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika, no. 3, 1963, 14, abstract 3A62. (Godishnik Khim.-tekhnol. in-t, v. 7, no. 1 - 2, 1960 (1961), 271 - 280, Bulg.; summaries in Russian and German)

TEXT: A new possibility is discussed of obtaining m-derived RC-filters which consist of a double T-shape bridge with a zero minimum of frequency characteristic and a 2-element RC-group. The circuits of the proposed filters are shown on the graph. Investigations show that these filters have a lower frequency-characteristic steepness but have an output voltage twice as high as that of existing m-derived RC-filters. There are 9 figures and 2 references.

T. Senitskaya

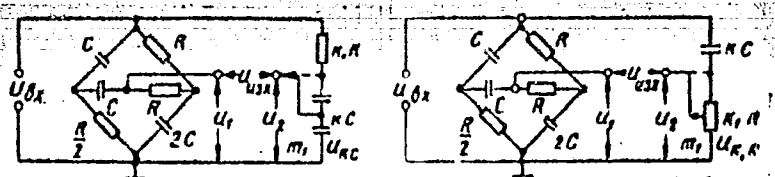
[Abstracter's note: Complete translation.]

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A052/A126

On some m-derived RC-filters

Figure:



Card 2/2

MARINOV, IU.; TONEV, I.

Some forms of the m-derived RC filters. Godishnik khim tekhn 7  
no.1/2:271-280 '60 [publ. '61].



MARINOV, IUL.; TONEV, IL.

On some varieties of tube phasemeters. Godishnik khim tekhn  
8 no.2:195-205 '61 [publ. '62].

NIKOLAEV, Gr., dots.; TONEV, Iv.

Metallogeny of the Chiprovtsi-Gorni Lom ore deposits. Godishnik  
Min geol inst 9:309-326 '62-'63[publ. '64].

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Geology of the region around the village of Kopilovtsi,  
and mineralization of the auriferous quartz-sulfide veins.  
Godishnik Min geol inst 7:23-36 '60/'61 [publ. '62].

TONEV, L., inzh.

The all-seeing eyes. Nauka i tekhn mladezh 17 no.1:22-30  
Ja '65.

BULGARIA

TONEV, Dr. M., VIZPB

"Disinfection of Imported Hides of Cattle and Other Animals"

Sofia, Veterinarna Sbirka, Vol 63, No 8, 1966, pp 12-14

Abstract: Formerly, Bulgaria exported lamb skins, kidskin, and hides of wild animals, while hides of cattle and calves were imported. At present, raw hides of lambs, skins of goats, and kidskin are also imported for the needs of the leather industry. In this connection, the danger exists that infectious diseases affecting farm animals may be imported in. This danger is particularly acute in view of the fact that a large amount of hides is imported from African countries, where conditions with respect to epizootics are unfavorable. Hides from countries in which the occurrence of variola, glanders, infectious anemia, infectious pleuropneumonia, and brucellosis among animals is suspected must be disinfected by procedures that are described. No references.

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- 66 -

TONEV, M.

TONEV, M. Characteristics of the hides of different breeds of cattle in our country, in view of their use for industrial products. p. 26. Vol. 5, no. 11, 1956 ELEKTROENERGIJA. Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol 6, No. 4--April 1957

TONEV, N.

New Methods for Fighting Fires in Coal Mines in Which Large Coal Veins  
are Exploited. Minno Delo (Mining), #1:13:Jan 55

TONEV, N.

New methods for fighting fires in coal mines with large strata. p. 13.  
MINNO DELO, Sofiya, Vol. 10, no. 1, Jan./Feb. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955,  
Uncl.



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Tonax, N. New methods for fighting fires in coal mines with long  
strata. p. 13. MINING BULG. Sofiya. Vol. 10, no. 1, Jan./Feb. 1955.

SO: Monthly List of the East European Accession (EEAL) LC. Vol. 4, no. 10,  
Oct. 1955. Uncl.

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The Simfoniia 10 radio receiver. Radio i televiziia 12  
no. 11: 334-336 '63.

TCNEV, S.

Industrial characteristics of the Kremikovtsi iron deposits and the results of the accomplished geologic research work. p. 65

First Bulgarian Ac-1 loading machine. p. 81

Machine for cleaning mining cars. p. 82

Development of the coal industry in the Chinese People's Republic. p. 85

Engineer-geologist Iovcho Smilov Iovchev was elected member of the Bulgarian Academy of Sciences. p. 92

National Scientific-Technical Conference on Mining and Metallurgy. p. 92

Thematic outline for instructing the rationalizers in solving some basic problems of the coal-mine industry during 1958. p. 95

Minno Delo Vol. 13, No. 3, May/June 1958, Sofia, Bulgaria.

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 10,  
Oct. 58

DELACHEV, A.G. (Narodnaya Respublika Bolgariya); TONEV, S.N.  
(Narodnaya Respublika Bolgariya)

Mineral resources in Bulgaria. Razved.i okh.nedr 25 no.11:  
60-63 N '59. (MIRA 13:5)  
(Bulgaria--Mines and mineral resources)

~~TONOVA, V.~~, starshiy nauchnyy sotrudnik, doktor; MATVEYEV, M., mladshiy  
nauchnyy sotrudnik, doktor.

A case from practice. Veterinariia 35 no.2:43-44 F '58.  
(MIRA 11:2)

1. Tsentral'nyy veterinarno-bakteriologicheskii institut, Sofiya.  
(Swine--Diseases and pests)

TOSHKOV, A.<sub>g.</sub>; IVANOV, V.; SOBEVA, V.; GANCHEVA, TS.<sub>v.</sub>; RANGELOVA, St.;  
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Antibacterial, antiviral, antitoxic and cytopathogenic properties  
of protoanemonin and anemonin. Antibiotiki 6 no.10:918-924, 0 '61.

1. Nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii,  
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(ANEMONIN) (PROTOANEMONIN)

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Live avirulent vaccine against fowl cholera. Pt. 4. Izv  
Vet inst zaraz parazit 7 77-83 '63.

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1. "Forty Years Since the Initial Communist Congress of Bulgarian Medical and Sanitation Workers" V. CHOLANOV; pp 3-7.
2. "Pharmacological Forms of Tetracycline Hydrochloride" G. SHUMKOVA and B. VASILEVA; (Pharmacy Research Institute) /Director: L. ZILYAKOV/; pp 9-13 (English Summary).
3. "Pharmacodynamics and Toxicology of Allium ursinum" A. KOTLOV; (Department of Pharmacology and Toxicology, VME) /Chairman Prof V. PANKOV/ and Department of VME /Chairman Senior Research Associate A. PANKOV/; pp 13-21.
4. "Quantitative Determination of Rutin in Perovskium asculantum" P. KIRKOV and A. S. PANKOV; (Chair of Medical Forms Technology and Chemicals of the Faculty of Pharmacy, Moscow Medical Institute); pp 21-25.
5. "Antibacterial, Antiviral, Antitoxic and Cytopathogenic Properties of Probenecid and Anconin" A. KOTLOV and V. IVANOV; V. SHUMKOVA, Rev. QUMERIK, St. PANKOV and V. KOTLOV; (Epidemiology and Microbiology Research Institute); pp 27-33 (English Summary).
6. "Methods for Quantitative Analysis of Procaine Hydrochloride in Sovaden Ampuls" Khr. KOTLOV; (Research Institute for State Control over Medical Preparations) /Director Prof SV. SHUMKOV/; pp 33-38.
7. "Use of Ion Exchange to Determine Acidity of Gastric Fluid" L. PANKOVA-SHUMKOVA and Z. KOTKOVA; pp 39-43 (English Summary).
8. "The Hospital Pharmacy" IV. KIRKOV; (Senior Pharmacist Pharmacy Inspection Office, Ministry of National Health and Sanitation Care); pp 44-48.
9. Descriptions not identified.
10. Kuchino-lalemtalatski Institut po farmatsiya.
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TONEVA, V., dr.

Cases of listeriosis in domestic animals in Bulgaria.  
Izv. mikrob. inst., Sofia 7:103-106 1956.

1. St. nauchn. sotrudnik.  
(*LISTERIA*, infections,  
in domestic animals in Bulgaria (Bul))

TONEVITSKIY, G. G.

Cand Agr Sci - (diss) "Economic indices and several biological characteristics of swine in connection with heterosis." Novocherkassk, 1961. 16 pp; (Ministry of Agriculture RSFSR, Novocherkassk Zooveterinary Inst imeni First Mounted Army); 150 copies; price not given; (KL, 6-61 sup, 233)

TONEVITSKIY, G.G.

Some physiological features of swine connected with heterosis.  
Zhur.ob.biol. 21 no.1:66-69 Ja-F '60. (MIRA 13:5)

1. Vitebsk Veterinary Institute.  
(HETEROSIS) (SWINE--PHYSIOLOGY)

L 41239-66 ENT(m)/ENT(t)/ETI IJP(c) JD/J

ACC NR: AP6019612 (A,N)

SOURCE CODE: UR/0048/66/030/002/0232/0234

AUTHOR: Barashenkov, V.S.; Mal'tsev, V.M.; Toneyev, V.D.

ORG: Theoretical Physics Laboratory, Joint Institute for Nuclear Research Labor-  
atoriya teoreticheskoy fiziki Ob'yedinennogo instituta yadernykh issledovaniy

TITLE: Nuclear reactions on Ir, Ta, and Er, induced by protons with energies up to  
85 MeV. /Report. Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear  
Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 3, 1966, 232-234

TOPIC TAGS: nuclear reaction, compound nucleus, cascade, reaction mechanism

ABSTRACT: Monte Carlo calculations of excitation functions for  $(p, \alpha)$  reactions  
( $\alpha = 1, 2, 3, \dots$ ) were performed under the following two assumptions concerning the  
reaction mechanism: 1) the target nucleus is excited by capture of the incident  
proton with formation of a compound nucleus; and 2) collision of the primary proton  
with the target nucleus gives rise to an intranuclear cascade, after which the  
nucleus is left in an excited state. It was assumed in both cases that de-exci-  
tation is realized by evaporation of nucleons. The calculated excitation curves  
were compared with the experimental data of L. Yaife and collaborators (Canad. J.  
Chem. 41, 2533, 2544, 2576 (1963)) on the Ir, Ta, and Er reactions at proton energies  
from 8 to 85 MeV. Comparison of the calculations with the experimental data for the

Card 1/2

L 41289-66

ACC NR: AP6019612

Ta<sup>181</sup> (p,xn) reactions for x = 1, 3, 4, 5, and 6 showed that the contribution of compound nucleus formation decreases smoothly from 100% at proton energies below 20 MeV to about 20% at a proton energy of 85 MeV. The calculated excitation functions were in quantitative agreement with the experimental data, except for the cases x = 1 and x = 4, where the deviations somewhat exceeded the experimental error. The dependence on proton energy of the relative contribution of the two reaction mechanisms derived from the Ta<sup>181</sup> (p,xn) data was employed to calculate excitation functions for Ta<sup>181</sup> (p,pxn) reactions and for reactions on Ir and Br. Satisfactory agreement with the experimental data was found. The agreement was particularly good for the Ta<sup>181</sup> (p,4n) reaction. It is concluded that the cascade-evaporation model gives a correct qualitative, and in some cases a quantitative, description of the nuclear interaction process in the 20 to 80 MeV incident particle energy range, but that it is not in a position to account for some details, such, for example, as (p,n) exchange scattering, fluctuations of the total interaction cross section, and quasifree scattering with subsequent emission of one or two neutrons. The model could be improved by introducing a diffuse nuclear boundary. Orig. art. has: 3 figures.

SUB CODE: 20

SUBM DATE: 00

ORIG. REF: 003 OTH REF: 005

Card 2/2 *LC*

ACC NR: AP6019626 (A, N) SOURCE CODE: UR/0048/66/030/002/0322/0327

AUTHOR: Barashenkov, V.S.; Mal'tsev, V.M.; Toneyev, V.D.

ORG: Theoretical Physics Laboratory, Joint Institute for Nuclear Research (Laboratoriya teoreticheskoy fiziki Ob'yedinennogo instituta yadernykh issledovaniy)

TITLE: Interaction of fast protons with heavy nuclei /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 2, 1966, 322-327

TOPIC TAGS: nuclear reaction, cascade, evaporation, nuclear fission, proton bombardment, uranium, nuclear model

ABSTRACT: The authors have employed a computer to perform Monte Carlo calculations of the interaction of 10 to 700 MeV protons with  $^{238}\text{U}$  nuclei on the basis of the cascade-evaporation model, and have compared the results with experimental data from different sources.  $^{238}\text{U}$  was chosen for the calculations because ample experimental data are available for it. For the calculations it was assumed that the nuclear radius is  $1.3A^{1/3} \times 10^{-13}$  cm, and calculations were performed for the two values  $A/10$  and  $A/20$ ,  $\text{MeV}^{-1}$  for the level density. Comparisons of the calculated results with experimental data are presented for the following features of the process: the fission and total inelastic interaction cross sections as functions of proton energy; the angular dis-

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L 41298-66

ACC NR: AP6019613

tributions of the charged particles ejected by 460 and 660 MeV protons; the energy distributions of protons and  $\alpha$  particles accompanying fission induced by 660 MeV protons; the distributions of fissions induced by 140, 460, and 660 MeV protons with respect to the number of accompanying charged particles; the number of moderate-energy ejected neutrons as a function of the proton energy; and the cross sections for producing different fragments as functions of the mass number of the fragment. In general, rather good agreement was obtained between theory and experiment. The agreement was better, and in some cases much better, when the  $A/10 \text{ MeV}^{-1}$  level spacing was used in the calculations than when the  $A/20 \text{ MeV}^{-1}$  spacing was used. The ratio of the fission-to the evaporation-width given as a function of energy by the statistical theory of I. Dostrovsky, Z. Fraenkel, and P. Rabinowitz (Proc. of the Second United Nations International Confer. on Peaceful Uses of Atomic Energy, Geneva, v. 15, p. 1615 (1958)) was used to calculate the yields of Np, U, Pa, Th, and As fragments as functions of their mass numbers. The calculations for Pa, Th, and As were in agreement with the experimental data, but the calculated yields of Np and U fragments were considerably higher than the experimental yields. The discrepancy is ascribed in part to neglect of quasi-elastic scattering in the calculations, and in part to the fact that the experimental cross sections of M. Linder and R. N. Osborne (Phys. Rev., 103, 378 (1956)) are too low. It is concluded that the cascade-evaporation model and the statistical theory of heavy nucleus fission are in good agreement with experiment in the energy range from 100 to 660 MeV, but that there are discrepancies regarding the yields of certain fragments that can be removed only by taking into account quasi-elastic scattering and the

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ACC NR: AP6019626

lowering of the Coulomb barrier in excited nuclei, and by a more thorough treatment of the competition between fission and evaporation. Orig. art. has: 6 figures and 2 tables.

SUB CODE: 20

SUBM DATE: 00

ORIG. REF: 009 , OTH REF: 009

Card 3/3 *ldh*



L 41305-66 EWT(m)/EWP(t)/ETI IJP(c) JG/JD

ACC NR: AP6019629

(A, N)

SOURCE CODE: UR/0048/66/030/002/0337/0340

AUTHOR: Barashenkov, V.S.; Mal'tsev, V.M.; Toneyev, V.D.

ORG: Theoretical Physics Laboratory, Joint Institute for Nuclear Research (Laboratoriya teoreticheskoy fiziki Ob'yedinennogo instituta yadernykh issledovaniy)

TITLE: Calculation of fast particle initiated nuclear fission /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 2, 1966, 337-340

TOPIC TAGS: nuclear fission, nuclear model, cascade, ~~evaporation~~ <sup>evaporator</sup>, proton bombardment, uranium

ABSTRACT: The authors have employed a computer to perform Monte Carlo calculations of the fission of  $^{238}\text{U}$  induced by up to 700 MeV protons on the basis of the cascade-evaporation model and the statistical theory of fission of P.Fong (Phys.Rev., 102, 434 (1956)), and have compared the results with experimental data from several sources.  $^{238}\text{U}$  was chosen for the calculations because the most experimental data are available for it. Other features of the interaction of fast protons with  $^{238}\text{U}$ , calculated at the same time, are discussed elsewhere by the authors (Izv. AN SSSR Ser. fiz., 30, 322 (1966) ?see Abstract AP6019626/). The calculations are described very briefly. Legendre polynomials up to only the third degree were employed in the expressions for the

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ACC NR: AP6019629

shapes of the fragments at the moment of fission, but the effect of higher powers of the deformation factor on the Coulomb energy was taken into account by the use of effective deformation parameters that were calculated by a successive approximation method. It is asserted that that technique made it possible more simply to obtain the same results as those obtained with the use of Legendre polynomials up to the 15-th degree by G.A.Pik-Pichak and V.M.Strutinskiy (Sb. Fizika deleniya atomnykh yader, str. 12. Gostekhizdat, M., 1962). The position of the maximum of the theoretical curve giving yield as a function of fragment mass for fissions initiated by 340 MeV protons was in good agreement with that of the experimental curve of P.S.Stevenson, H.G.Hicks, W.E.Nervik, and D.R.Nethaway (Phys.Rev., 111, 886 (1959)) and the calculated total fission cross section was in good agreement with experimental values, but the calculated yield for highly asymmetric fission was significantly below the experimental yield. That discrepancy is ascribed to an unspecified simplification employed in the calculations. The calculated yields of  $^{134}\text{Cs}$ - $^{137}\text{Cs}$  fragments as functions of the incident proton energy were in good agreement with experimental data (when adjusted to the experimental yields at a proton energy of 350 MeV) for proton energies above 200 MeV. The experimental yields of  $^{135}\text{Cs}$  and  $^{137}\text{Cs}$  at lower proton energies were considerably higher than the calculated yields, and it is suggested that the discrepancy may be due to the effect of a second fission mechanism. It is concluded that the statistical theory of fission, together with the cascade-evaporation model, gives a good account of the main features of the fission of heavy nuclei initiated by particles

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ACC NR: AP6019629

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with energies above 200 MeV, but that the fission of heavy nuclei by lower energy particles requires further study. Orig. art. has: 3 figures.

SIB CODE: 20

SUBM DATE: 00

ORIG. REF: 005

OTH REF: 006

Card 3/3 hg

1ST AND 2ND COLUMNS										3RD AND 4TH COLUMNS									
PROCESSES AND PROPERTIES INDEX																			
SA										<p>23657. Reliability of Thermocouples. B. Guldin, C. O. Tongberg and M. R. Benke. <i>Indust. and Engin. Chem.</i> 29, pp. 327-330, July, 1937.—The results obtained seem to indicate that for the temperature range, for the size of wires, and for the conditions under which the tests were made: (1) Heat treatment of copper-copel, copper-constantan, and chromel-constantan thermocouples above about 300° C. causes them to indicate</p> <p>temperatures which are different from those before heat treatment, the discrepancy, in general, being greater the higher the temperature of heat treatment; moreover, measurements of lower temperatures show, in general, less discrepancy than measurements of higher temperatures. (2) Heat treatment of copper-copel and copper-constantan thermocouples at temperatures between about 300° C. and 300-350° C. causes them to indicate a higher temperature than before such heat treatment; heat treatment above 300-350° C. causes them to indicate a lower temperature. It may be concluded that copper-copel and copper-constantan thermocouples possess a rather high degree of reliability if used in the temperature range 0° to 300° C.</p> <p>Authors.</p>									
										A53 J									
<p>ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION</p> <p>FROM SYNDICATE</p> <p>EXCHG. NO. 111</p>																			

*bc*

A-2

Mineralogical and chemical composition of  
quartzite from Eoche's mine near Palam-  
bang, Cebu, W. H. K. J. (Proc. R.  
Acad. Amsterdam, 1936, 39, 670-673). —  
Data are given.

H. J. E.

TONGUR, V.S.; TONGUR, A.M.

Regeneration of insulin by pressure. Biokhimiya '51, 16, 410-415. (MLRA 4:10)  
(BA -AIII My '53:678)

BRESLER, S.Ye.; GLIKINA, M.V.; ~~TONGUR, A.M.~~

Re-synthesis of biologically active insulin. Doklady Akad. nauk  
SSSR 78 no.3:543-545 21 May 1951. (CML 20:9)

1. Physico-Technical Institute of the Academy of Sciences USSR.
2. Presented by Academician A.F. Ioffe 27 March 1951.

VOLKOVA, M.S.; TONGUR, A.M.; CHUMAYEVA, A.S.; PASYNSKIY, A.G.

Radiation determination of the molecular weight of insulin [with  
summary in English]. Biofizika 2 no.4:465-468 '57. (MLRA 10:9)

1. Institut biokhimii im. A.N.Bakha Akademii nauk SSSR, Moskva  
(INSULIN) (MOLECULAR WEIGHTS)  
(RADIATION—PHYSIOLOGICAL EFFECT)



PASYNSKIY, A.G.; TONGUR, A.M.

Periodic deformation of collagen in solutions of electrolytes  
and tanning agents [with summary in English]. Koll.zhur. 19  
no.4:483-489 J1-Ag '57. (MIRA 10:10)

1. Institut biokhimii AN SSSR im. A.N. Bakha, Moskva.  
(Collagen) (Tanning)

TONGUR, A.M.; PASYNSKIY, A.G.

Changes in the surface properties of irradiated desoxyribonucleoprotein  
and desoxyribonucleic acid. Biofizika 5 no. 5:517-522 '60.  
(MIRA 13:10)

1. Institut biokhimii imeni A.N. Bakha, Moskva.  
(NUCLEOPROTEINS) (DESOXYRIBONUCLEIC ACID)  
(X RAYS--PHYSIOLOGICAL EFFECT)

TONGER, A.M.

Radiation Chemistry in Two-Phase Systems  
Tuesday Afternoon Session B-6-2 (Contd.)

(e)  
The Role of Radiation-Induced Damage to Interphases in the Biological Action of Radiation

A. G. Pasyunskiy, M. S. Volkova, A. M. Tonger and  
L. M. Komarova

The measurements of dry and moist samples of DNA in an electron microscope show that irradiation not only destroys DNA molecules but also causes them to coil up. The appearance of chemical cross-links in monolayers of DNA disturbs the structure and increases the area of the monolayer. A result of such a radiation-induced disturbance of the organization of the structure of thin surface layers (including nucleic acids) is a conspicuous change of their permeability. A considerable increase of enzymatic reaction rates after irradiation could be shown on a model system in which the enzyme peroxidase and the substrate ascorbic acid were separated by a layer of RNA about 160 Å thick. Similar phenomena are being investigated in systems with lipoprotein interphases. Radiation damage to the structural organization of membranes plays an important role in the disturbance of the oxidation rate of succinic acid by isolated liver mitochondria, and in leaf tissues of various plants (tea, beans, etc.) in which disruption of enzymatic oxidative processes occurs. The changes in intracellular molecular surfaces can be the source of all subsequent biochemical disturbances and of radiation disease in living cells.

*Institute of Biological Chemistry, Academy of Sciences, Moscow, USSR*

report presented at the 2nd Intl. Congress of Radiation Research,  
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

EPSHTEYN, I.M., prof.; VAYNBERG, Z.S., kand.med.nauk; TONGUR, A.M.,  
kand.khim.nauk

Experimental nephrolithiasis in the light of electron microscopy  
studies. Urol. i nefr. no.2:10-14 '65. (MIRA 19:1)

1. Urologicheskaya klinika (zav.-- prof. I.M.Epshteyn) i Moskov-  
skogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.